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ABSTRACT OF THE INVENTION

An improved raster engine adapted to render video data from a frame buffer to one of a plurality of disparate displays is disclosed which comprises apparatus for detecting one or more video underflow conditions. The raster engine includes a first in first out (FIFO) memory, which obtains video data from a frame buffer and provides video data to a video pipeline, along with input and output counters associated with the FIFO memory. A control logic system is associated with the FIFO memory and adapted to provide an underflow indication according to the input and output counter values. A method for detecting video underflow in a video controller raster engine is also disclosed. The method includes obtaining an input counter value indicative of video data obtained from the frame buffer and an output counter value indicative of video data provided from a memory to a video pipeline in the raster engine, performing a comparison of the input and output counter values, and selectively providing an underflow indication according to the input and output counter value comparison.

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